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1 The transport layer: tutorial and survey
Sami Iren, Paul D. Amer, Phillip T. Conrad
December 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 4

Full text available: 📄 pdf(261.78 KB)   Additional Information: full citation, abstract, references, citings, index terms

> Transport layer protocols provide for end-to-end communication between two or more hosts. This
> paper presents a tutorial on transport layer concepts and terminology, and a survey of transport
> layer services and protocols. The transport layer protocol TCP is used as a reference point, and
> compared and contrasted with nineteen other protocols designed over the past two decades. The
> service and protocol features of twelve of the most important protocols are summarized in both
> text and tables.< ...
>
> **Keywords**: TCP/IP networks, congestion control, flow control, transport protocol, transport servi(

2 Adaptive link layer strategies for energy efficient wireless networking
Paul Lettieri, Curt Schurgers, Mani Srivastava
October 1999 **Wireless Networks**, Volume 5 Issue 5

Full text available: 📄 pdf(611.81 KB)   Additional Information: full citation, references, citings, index terms

3 A data labelling technique for high-performance protocol processing and its consequences
David C. Feldmeier
October 1993 **ACM SIGCOMM Computer Communication Review , Conference proceedings on
        Communications architectures, protocols and applications**, Volume 23 Issue 4
Full text available: 📄 pdf(1.34 MB)   Additional Information: full citation, references, citings, index terms

4 An architecture for packet-striping protocols
Adiseshu Hari, George Varghese, Guru Parulkar
November 1999 **ACM Transactions on Computer Systems (TOCS)**, Volume 17 Issue 4
Full text available: 📄 pdf(220.97 KB)   Additional Information: full citation, abstract, references, index terms, review

10\041,028

Link-striping algorithms are often used to overcome transmission bottlenecks in computer networks. Traditional striping algorithms suffer from two major disadvantages. They provide inadequate load sharing in the presence of variable-length packets, and may result in non-FIFO delivery of data. We describe a new family of link-striping algorithms that solves both problems. Our scheme applies to any layer that can provide multiple FIFO channels. We deal with variable-sized packets by showing h ...

Keywords: causal fair queuing, fair queuing, load sharing, multilink PPP, packet striping, stripe protocol, striping

5 AIRMAIL: a link-layer protocol for wireless networks

Ender Ayanoglu, Sanjoy Paul, Thomas F. LaPorta, Krishan K. Sabnani, Richard D. Gitlin
February 1995 **Wireless Networks**, Volume 1 Issue 1

Full text available: pdf(1.35 MB)   Additional Information: full citation, abstract, references, citings, index terms

This paper describes the design and performance of a link-layer protocol for indoor and outdoor wireless networks. The protocol is asymmetric to reduce the processing load at the mobile, reliability is established by a combination of automatic repeat request and forward error correctioi and link-layer packets are transferred appropriately during handoffs. The protocol is named AIRMAIL (AsymmetrIc Reliable Mobile Access In Link-layer). The asymmetry is needed in the design because the mobil ...

6 Transport Layer Issues: A transport layer approach for achieving aggregate bandwidths on multi-homed mobile hosts

Hung-Yun Hsieh, Raghupathy Sivakumar
September 2002 **Proceedings of the 8th annual international conference on Mobile computin(and networking**

Full text available: pdf(380.57 KB)   Additional Information: full citation, abstract, references, citings, index terms

Due to the availability of a wide variety of wireless access technologies, a mobile host can potentially have subscriptions and access to more than one wireless network at a given time. In this paper, we consider such a multi-homed mobile host, and address the problem of achieving bandwidth aggregation by striping data across the multiple interfaces of the mobile host. We shov that both link layer striping approaches and application layer techniques that stripe data across multiple TCP sockets d ...

Keywords: bandwidth aggregation, multi-homed mobile host, striping

7 Sirpent: a high-performance internetworking approach

D. R. Cheriton
August 1989 **ACM SIGCOMM Computer Communication Review , Symposium proceedings on Communications architectures & protocols**, Volume 19 Issue 4

Full text available: pdf(1.65 MB)   Additional Information: full citation, abstract, references, citings, index terms

A clear target for computer communication technology is to support a high-performance global internetwork. Current internetworking approaches use either concatenated virtual circuits, as in X.75, or a "universal" internetwork datagram, as in the DoD Internet IP protocol and the ISO connectionless network protocol (CLNP). Both approaches have significant disadvantages. This paper describes Sirpent™ (Source Internetwork Routing Protocol with Extended Network Trans ...

8 Network Protocols

Andrew S. Tanenbaum
December 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 4

Full text available: pdf(3.37 MB)   Additional Information: full citation, references, citings, index terms

9 FLIP: an internetwork protocol for supporting distributed systems

M. Frans Kaashoek, Robbert van Renesse, Hans van Staveren, Andrew S. Tanenbaum

February 1993 **ACM Transactions on Computer Systems (TOCS)**, Volume 11 Issue 1

Full text available: pdf(2.29 MB)   Additional Information: full citation, abstract, references, citings, index terms

> Most modern network protocols give adequate support for traditional applications such as file transfer and remote login. Distributed applications, however, have different requirements (e.g., efficient at-most-once remote procedure call even in the face of processor failures). Instead of using ad hoc protocols to meet each of the new requirements, we have designed a new protocol, called the Fast Local Internet Protocol (FLIP), that provides a clean and simple integrated approac to these new ...

10 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Full text available: pdf(4.21 MB)   Additional Information: full citation, abstract, references, index terms

> Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

11 Improving TCP performance over wireless networks at the link layer

Christina Parsa, J. J. Garcia-Luna-Aceves

March 2000 **Mobile Networks and Applications**, Volume 5 Issue 1

Full text available: pdf(324.14 KB)   Additional Information: full citation, abstract, references, citings, index terms

> We present the transport unaware link improvement protocol (TULIP), which dramatically improvi the performance of TCP over lossy wireless links, without competing with or modifying the transport- or network-layer protocols. TULIP is tailored for the half-duplex radio links available with today's commercial radios and provides a MAC acceleration feature applicable to collision-avoidance MAC protocols (e.g., IEEE 802.11) to improve throughput. TULIP's timers rely on a maximum propagation del ...

12 Multi-layer tracing of TCP over a reliable wireless link

Reiner Ludwig, Bela Rathonyi, Almudena Konrad, Kimberly Oden, Anthony Joseph

May 1999 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1999 ACI SIGMETRICS international conference on Measurement and modeling of computer systems**, Volume 27 Issue 1

Full text available: pdf(1.37 MB)   Additional Information: full citation, references, citings, index terms

> **Keywords**: GSM, TCP, measurement tools, wireless

13 A 50-Gb/s IP router

Craig Partridge, Philip P. Carvey, Ed Burgess, Isidro Castineyra, Tom Clarke, Lise Graham, Michael Hathaway, Phil Herman, Allen King, Steve Kohalmi, Tracy Ma, John Mcallen, Trevor Mendez, Walter (Milliken, Ronald Pettyjohn, John Rokosz, Joshua Seeger, Michael Sollins, Steve Storch, Benjamin Tober, Gregory D. Troxel

June 1998 **IEEE/ACM Transactions on Networking (TON)**, Volume 6 Issue 3

Full text available: pdf(133.28 KB)   Additional Information: full citation, references, citings, index terms, review

Keywords: data communications, internetworking, packet switching, routing

14 Computing curricula 2001
September 2001 **Journal on Educational Resources in Computing (JERIC)**

Full text available: pdf(613.63 KB)   Additional Information: full citation, references, citings, index terms
html(2.78 KB)

15 Services: TinySec: a link layer security architecture for wireless sensor networks
Chris Karlof, Naveen Sastry, David Wagner
November 2004 **Proceedings of the 2nd international conference on Embedded networked sensor systems**

Full text available: pdf(316.88 KB)   Additional Information: full citation, abstract, references, index terms

We introduce TinySec, the first fully-implemented link layer security architecture for wireless sensor networks. In our design, we leverage recent lessons learned from design vulnerabilities in security protocols for other wireless networks such as 802.11b and GSM. Conventional security protocols tend to be conservative in their security guarantees, typically adding 16--32 bytes of overhead. With small memories, weak processors, limited energy, and 30 byte packets, sensor networks cannot affo ...

Keywords: link layer security, sensor network security

16 Link layer retransmission schemes for circuit-mode data over the CDMA physical channel
Mooi Choo Chuah, Bharat Doshi, Subra Dravida, Richard Ejzak, Sanjiv Nanda
October 1997 **Mobile Networks and Applications**, Volume 2 Issue 2

Full text available: pdf(460.82 KB)   Additional Information: full citation, abstract, references, index terms

In the last few years, wide-area data services over North American digital (TDMA and CDMA) cellular networks have been standardized. The standards were developed under three primary constraints: (i) compatibility with existing land-line standards and systems, (ii) compatibility with existing cellular physical layer standards that are optimized for voice, and (iii) market demands fc quick solutions. In particular, the IS-95 CDMA air interface standard permits multiplexing of primary traffic ...

17 The design and implementation of hierarchical software systems with reusable components
Don Batory, Sean O'Malley
October 1992 **ACM Transactions on Software Engineering and Methodology (TOSEM)**, Volume 1 Issue 4

Full text available: pdf(3.15 MB)   Additional Information: full citation, abstract, references, citings, index terms, review

We present a domain-independent model of hierarchical software system design and construction that is based on interchangeable software components and large-scale reuse. The model unifies the conceptualizations of two independent projects, Genesis and Avoca, that are successful examples of software component/building-block technologies and domain modeling. Building-bloc technologies exploit large-scale reuse, rely on open architecture software, and elevate the granularity of programming to ...

Keywords: domain modeling, open system architectures, reuse, software building-blocks, software design

18 Design, implementation, and performance measurement of a native-mode ATM transport layer (extended version)
R. Ahuja, S. Keshav, H. Saran
August 1996 **IEEE/ACM Transactions on Networking (TON)**, Volume 4 Issue 4
Full text available: 🔤 pdf(1.66 MB)   Additional Information: full citation, references, citings, index terms

Keywords: AAL 5, asynchronous transfer mode, native-mode ATM, personal computer, transport layer

19 Peer to peer networks: Tarzan: a peer-to-peer anonymizing network layer
Michael J. Freedman, Robert Morris
November 2002 **Proceedings of the 9th ACM conference on Computer and communications security**
Full text available: 🔤 pdf(242.72 KB)   Additional Information: full citation, abstract, references, citings, index terms

Tarzan is a peer-to-peer anonymous IP network overlay. Because it provides IP service, Tarzan is general-purpose and transparent to applications. Organized as a decentralized peer-to-peer overlay, Tarzan is fault-tolerant, highly scalable, and easy to manage.Tarzan achieves its anonymity with layered encryption and multi-hop routing, much like a Chaumian mix. A message initiator chooses a path of peers pseudo-randomly through a restricted topology in a way that adversaries cannot easily influenc ...

Keywords: IP tunnels, anonymity, cover traffic, distributed trust, mix-nets, overlay networks, peer-to-peer

20 IP switching—ATM under IP
Peter Newman, Greg Minshall, Thomas L. Lyon
April 1998 **IEEE/ACM Transactions on Networking (TON)**, Volume 6 Issue 2
Full text available: 🔤 pdf(154.32 KB)   Additional Information: full citation, references, citings, index terms

Keywords: Internet protocol, asynchronous transfer mode, broadband communication, communication system control, data communication, packet switching, protocols

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☐ 1. **An all-optical packet header recognition scheme for self-routing packet networks**
Kit Chan; Tong, F.; Chan, C.K.; Chen, L.K.; Wai Hung;
Optical Fiber Communication Conference and Exhibit, 2002. OFC 2002
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☐ 2. **Analysis of packet header effects in rate allocation for packet video**
Bo Hong; Nosratinia, A.;
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☐ 5. **Effect of fixed and interference-induced packet error probability on PRMA**
Mehta, N.B.; Goldsmith, A.;
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Bauer, D.C.; Cannady, J.; Garcia, R.C.;
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☐ 21. **IPSec/PHIL (packet header information list): design, implementation, and evaluat**
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☐	L3	(data near link near layer)	3200
☐	L2	(transaction near layer)	323
☐	L1	(communication near stack)	617

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